REMARKS

Reconsideration of the present application in view of the amendments and following remarks is respectfully requested. Claims 18-25 were previously canceled. Claims 6 and 7 have been amended in order to correct typographical errors. Forty-eight claims are pending in the application: Claims 1-17 and 26-56.

35 U.S.C. § 102

1. Claim 17 stands rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,442,522 B1 (*Carberry et al*).

Carberry et al. describe a system and method for servicing natural language requests. The system utilizes a computer program comprising an input system for natural language commands. The computer program allows an end user to interface with a plurality of back-end hosts, which are computerized resources that provide on-line information services. After a natural language command is issued, a speech engine forwards the uttered command to a speech recognition system, which converts the uttered command into text format. A grammar switch is used to restrict the end-user to a specific set of phrases. Once the command is converted into text, a translation system parses the command into request elements and stores the request elements as a single object in a generic, host-independent format. A routing system then services the request, and the result of this operation is subsequently output to the user.

In contrast, Applicants' independent claim 17 recites "searching for an attention word based on a first context" and

"switching, upon finding the attention word, to a second context." As stated in Applicants' specification at page 10, lines 1-30, the attention word notifies the Natural Language Interface Controller System (NLICS) that following the attention word, a request will arrive. As such, the microphone arrays employed by the NLICS only have to search for the attention word or words within the physical space defined by the microphone arrays. For example, if the attention word is programmed as "Mona", then the user's request becomes "Mona, I wanna watch TV." Furthermore, individual users may have separate attention words specific to that user. For example, within a household, a first user's attention word is "Mona" while a second user's attention word is "Thor". When the NLICS hears the attention word "Mona", the system assumes that the first user is issuing the command, and so the NLICS will load the grammars and acoustic models corresponding to that user (context switching).

M.P.E.P. § 2131 states that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."

It appears the Examiner has equated grammar switch 38, speech recognition system 36, and grammars specific to airline reservation, train reservation, cruise reservation, and auto reservation as each disclosed by *Carberry et al.* with Applicants' claimed "searching for an attention word based on a first context including a first set of models, grammars, and lexica."

The function of the speech recognition system 36 as disclosed by *Carberry et al.* is for converting uttered commands into a text format. *Carberry et al.* do not teach or suggest that the speech recognition system 36 utilizes an attention word to

activate a grammar switch 38. Furthermore, the sections of *Carberry et al.* cited by the Examiner do not teach or suggest any method or reason for activating a grammar switch 38. *Carberry et al.* only teach that the speech recognition system is coupled to the grammar switch 38. Still further, *Carberry et al.* only describe the grammar switch 38 as being able to "restrict the end user to a specific set of phrases," (See col. 5, line 5-10). *Carberry et al.* do not disclose any means for how grammar switch 38 is controlled or activated. Therefore, *Carberry et al.* do not disclose "searching for an attention word based on a first context" and "switching, upon finding the attention word, to a second context to search for an open ended user request," as specifically claimed by Applicants.

It also appears the Examiner has equated the word or phrase spotters disclosed by *Carberry et al.* with Applicants' "switching upon finding the attention word to a second context to search for an open ended user request, wherein second context includes a second set of models, grammars, and lexicons."

However, the word or phrase spotters as disclosed by *Carberry et al.* are used to recognize specific semantic clauses, not as a means of "switching, upon finding the attention word, to a second context," such as is claimed by Applicants. *Carberry et al.* state explicitly that the word or phrase spotters can recognize specific terms in an uttered sentence "not by a grammar, but instead by seeing the [term to be recognized] somewhere in the sentence," (See col 5. lines 35-43).

Thus, *Carberry et al.* do not disclose "searching for an attention word based on a first context including a first set of models, grammars, and lexica; and switching, upon finding the attention word, to a second context to search for an open-ended

user request, wherein second context includes a second set of models, grammar and lexicons," as is claimed by Applicants. Therefore, Carberry et al. do not anticipate Applicants' claim 17 because not each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Thus, Applicants respectfully submit the rejection of claim 17 is overcome and request a timely notice of allowance be issued.

35 U.S.C. §103

2. Claims 1-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Spoken Language System-Beyond Prompt and Response *(Wyard et al.)* in view of Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array *(Giuliani et al.)*.

Wyard et al. disclose a spoken language system which responds to unprompted user-input in the form of conversational, natural-language speech. The user's utterances are converted into strings of text via a speech recognizer. After the strings of text are evaluated for their most likely meaning, the system attempts to perform any user requests contained within these strings. In certain embodiments, these requests are serviced via queries to an internal database, or alternatively, to a database or set of databases connected to the system through a network. If the requests are successfully performed, the system sends a confirmation message to the user acknowledging successful completion of the user's requests, along with that data which user has requested (if any). If the requests cannot be performed, or if the user's requests or input are ambiguous, the

system will so indicate that to the user through a corresponding message.

Giuliani et al. describe enhancement techniques for speaker-independent continuous speech recognition. Such techniques are used for recognition improvement of cleanly input speech or for speech generated in noisy conditions. These techniques involve acquiring a signal through an array of microphones, compensating for a corresponding time delay, enhancing the acquired signal by a spectrum weighting process, parsing the enhanced signal by means of a digital filter, and matching segments of the parsed signal to various hidden Markov models.

M.P.E.P. § 2143.03 states that "[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art."

The Examiner states that: "*Wyard et al.* teach a natural language interface control system for operating a plurality of devices comprising...a device interface coupled to the natural interface module, wherein the natural language interface module is for operating a plurality of devices coupled to the device interface based upon non-prompted, open-ended natural language request from a user (his prolog database, page 186; his system based on a non-prompted open-ended language to allow users to express their requirements more directly)."

The Examiner appears to have equated Applicants' "device interface" with Wyard's "internal knowledge bases" (See *Wyard* Right Column, Line 1, Paragraph 4, p. 190; also referred to as the "Prolog Database," see Figure 5, p. 191). The Examiner also appears to have equated Applicants' "plurality of devices

coupled to the device interface" with Wyard's "external databases" (See *Wyard* Right Column, Line 1, Paragraph 4, p. 190).

While the system disclosed by *Wyard et al.* accesses data stored on a database or a plurality of databases connected on a network in order to service a user's request (See *Wyard* Right Column, Paragraph 4, p. 190), this system provides no means or mechanism for allowing the user to "operate" such databases via speech input. The system merely "extracts actual information from the database" after the appropriate queries have been established (see *Wyard* Right Column, Last Paragraph, p. 201).

In contrast, Applicants' claims specifically recite "a device interface coupled to the natural language interface control system...wherein the natural language interface module is for operating a plurality of devices coupled to the device interface." As described in Applicants' specification, such devices may include a television, a stereo, a video cassette recorder (VCR), a digital video disk (DVD) player, etc. (See Lines 1-3, Page 6). For example, in response to a user's request such as: "I wanna watch TV," the natural language interface module will issue command(s) to the appropriate device(s) to turn on the television and amplifier, set the television and amplifier to the proper modes, and set the volume to an appropriate level, thus operating the television.

Thus, *Wyard et al.* do not disclose or suggest a "natural language interface module...for operating a plurality of devices coupled to the device interface," such as is claimed by Applicants. Additionally, as described above, Giuliani teaches specific techniques to improve speech recognition, and does not disclose or suggest a natural language interface that "operates" a plurality of devices coupled thereto, as recited in claim 1. A

combination of *Wyard et al.* and *Giuliani et al.* would simply improve the speech recognition of the system of *Wyard et al.* and does not further suggest the limitations of claim 1. Therefore, *Wyard et al.* and *Giuliani et al.* do not, individually or in combination, teach or suggest all of the claim limitations of claim 1. Thus, Applicants respectfully submit the rejection of claim 1 is overcome and request a timely notice of allowance be issued.

Additionally, M.P.E.P. § 2144.03 states that "Official notice should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well known." Further, M.P.E.P. § 2144.03 states that "the notice of facts beyond the record which may be taken by the examiner must be 'capable of such instant and unquestionable demonstration as to defy dispute,'" (citing *In re Knapp Monarch Co.*, 296 F. 2d 230). M.P.E.P. § 2144.03 also states that "[i]f such notice is taken, the basis for such reasoning must be set forth explicitly. The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusions of common knowledge."

Claim 1 specifically recites "wherein at least one of the different acoustic models and at least one of the different grammars is downloaded over a network." The Examiner states that "Official Notice is taken that both this feature [downloading different grammars or acoustic models over a network] and its advantages are well known in the art. Therefore, one having ordinary skill in the art at the time the invention was made would have it obvious to download the grammar over a network

because it would render the system faster since its memory could be smaller and its access would be faster."

First, Applicants traverse that "wherein at least one of the different acoustic models and at least one of the different grammars is downloaded over a network," is a fact that is capable of instant and unquestionable demonstration as being well known. While the fact that a network exists may be well known, utilizing a network as recited in Applicants' claim is not a fact that is capable of instant and unquestionable demonstration as being well known. Thus, Applicants respectfully submit the official notice taken by the Examiner is improper.

As per M.P.E.P. 2144.03, Applicants respectfully request the Examiner to provide an affidavit or declaration setting forth specific factual statements and an explanation supporting his finding.

Second, the Examiner has not provided Applicants with any basis for such taking of official notice. As recited above, the M.P.E.P. requires the Examiner to "provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusions of common knowledge." Thus, for this additional reason, Applicants respectfully submit the official notice taken by the Examiner is improper.

Third, Applicants' claimed "wherein at least one of the different acoustic models and at least one of the different grammars is downloaded over a network," allows for a natural language interface control system that can add acoustic models and grammars, for example, if an additional device is desired to be interfaced with the natural language interface control system. This feature and its benefits are not well known in the art and

the Examiner has not provided any reason to support a position that such features are well known in the art.

Having sufficiently traversed the Examiner's taking of official notice, Applicants respectfully request the Examiner to provide documentary evidence in the next office action if the rejection is to be maintained as required by M.P.E.P § 2144.03. Thus, Applicants respectfully submit the rejection of claim 1 is overcome.

Furthermore, claims 2-5 are also in condition for allowance at least because of their dependence upon allowable claim 1.

3. Claims 6-7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Spoken Language System-Beyond Prompt and Response *(Wyard et al.)* in view of Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array *(Giuliani et al.)* and U.S. Patent Application No. 5,513,298 *(Stanford et al.)* as applied to Claim 1 above, and further in view of U.S. Patent Application No. 6,442,522 B1 *(Carberry et al.)*.

Claims 6 and 7 both contain a similar limitation as contained by claim 1, namely, "a device interface coupled to the natural language interface module, wherein the natural language interface module is for operating a plurality of devices coupled to the device interface based upon non-prompted, open-ended natural language requests from a user." For the same reasons as discussed above with respect to claim 1, neither *Wyard et al.* nor *Giuiliani et al.* teach or suggest this claim limitation. Furthermore, *Carberry et al.* and *Stanford et al.* do not teach or suggest the aforementioned claim limitation. Thus, Applicants

respectfully submits claims 6 and 7 are in condition for allowance, and the rejection is overcome.

4. Claims 8-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Spoken Language System-Beyond Prompt and Response *(Wyard et al.)* in view of Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array *(Giuliani et al.)* and *United* States Patent Application No. 6,442,522 B1 (*Carberry et al.*).

Claims 8-10 contain a similar limitation as contained by claim 1, namely, "a device interface coupled to the natural language interface module, wherein the natural language interface module is for operating a plurality of devices coupled to the device interface based upon non-prompted, open-ended natural language requests from a user." For the same reasons as discussed above with respect to claim 1, neither *Wyard et al.* nor *Giuiliani et al.* teach or suggest this claim limitation. Furthermore, *Carberry et al.* does not teach or suggest the aforementioned claim limitation either. Thus, Applicants respectfully submits claims 8-10 are in condition for allowance, and the rejection is overcome.

5. Claims 11-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Spoken Language System-Beyond Prompt and Response *(Wyard et al.)*in view of Hands free Continuous Speech Recognition in Noisy Environment Using a Four Microphone Array *(Giuliani et al.)* in view of U.S. Patent Application No. 6,442,522 B1 *(Carberry et al.)* as applied to Claim 1 above, in further view of United States Patent No. 5,878,394 *(Muhling)*.

Claims 11-16 are dependent on claim 1. As stated above, claim 1 is in condition for allowance. Furthermore, Applicants submit *Muhling* does not teach or suggest the claim limitation, "a device interface coupled to the natural language interface module, wherein the natural language interface module is for operating a plurality of devices coupled to the device interface based upon non-prompted, open-ended natural language requests from a user."

Thus, Applicants respectfully submit the rejection of claims 11-16 is overcome at least because of their dependency upon allowable claim 1.

6. The Examiner states that claims 26-54 comprise all the limitations of 1-17 and therefore are rejected under the same rationale.

The examiner is in error as claims 26-56 contain limitations that are not contained in claims 1-17. Specifically, independent claims 26, 45 and 50 all claim "an external network interface coupled to the natural language interface control system." The Examiner does not state where in any of the cited references such a limitation can be found, nor is such a limitation present in any of the cited references. Thus, Applicants presume that the Examiner was unable to find any teachings or suggestions of the claimed system/method. Not only is the claimed limitation absent from the cited references, but there is also no motivation in the cited references to include the claimed external network. Thus, the combination of the references cited does not teach the claimed invention. If the Examiner is to maintain a rejection of claims 26-54, Applicants respectfully request that the Examiner show where all of the

claim limitation of claims 26-54 are shown in a reference.

Furthermore, the Examiner fails state anywhere in the present office action why claims 55 and 56 are rejected. Thus, Applicants assume that this rejection was in error. For the reasons stated above, this limitation is not shown by the combination of the references cited by the Examiner. Thus, the rejection is overcome and claims 55 and 56 are in condition for allowance.

CONCLUSION

In view of the above, Applicants submit that the pending claims are in condition for allowance, and prompt and favorable action is earnestly solicited. Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain any outstanding issues that require adverse action, it is respectfully requested that the Examiner telephone Thomas F. Lebens at (805) 541-2800 so that such issues may be resolved as expeditiously as possible.

Respectfully submitted,

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